

CLAIMS

1. A mounting apparatus comprising:
 - a mounting part holding means for holding a
 - 5 mounting part;
 - a mounting target part holding means for holding a mounting target part;
 - a control means for moving one of the mounting part holding means and the mounting target part holding means to bring the mounting part held by the mounting part holding means and the mounting target part held by the mounting target holding means into contact with each other in a predetermined fashion for a predetermined processing;
 - 10 a contact start detecting means for detecting start of contact between the mounting part and the mounting target part; and
 - a contact start position detecting means for detecting a contact start position where the start of
 - 15 contact between the mounting part and the mounting target part is detected by the contact start detecting means,
 - wherein the control means comprises:
 - an initial movement control means for
 - 20 moving the one of the means to be moved from a predetermined initial position toward the other means by a predetermined initial moving amount;

a contact movement control means for moving, after movement by the initial movement means by the predetermined initial moving amount, the one of the means to be moved toward the other means in a manner different from the movement by the initial movement means, bringing the mounting part into contact with the mounting target part; and

a correction means for correcting, each time the contact start position is detected by the contact start position detecting means, one of the predetermined initial moving amount and a predetermined initial moving amount that is obtained after correction by the correction means based on the contact start position detected.

15 2. A mounting apparatus according to Claim 1, wherein the contact start detecting means comprises a means for detecting contact start based on a contact pressure generated between the mounting part and the mounting target part.

20 3. A mounting apparatus according to Claim 1 or 2, wherein the contact start position detecting means comprises a means for detecting the contact start position based on a moving amount by which the one of the means to be moved moves from a predetermined reference position until the detecting of the start of contact between the mounting part and the mounting target part.

4. A mounting apparatus according to any one of Claims 1 through 3, further comprising:

a pressurizing means for causing an output member to act on one of the mounting part and the 5 mounting target part to impart a predetermined pressurizing force between the mounting part and the mounting target part in contact with each other;

a lock means for supporting as a support portion a halfway portion of the output member from a 10 direction opposite to a pressurizing direction to regulate relative movement of the output member in the pressurizing direction with respect to the support portion; and

a pressurizing force detecting means for 15 detecting a pressurizing force actually acting on the output member between an end portion of the output member acting on the one of the mounting part and the mounting target part and a position of a cross section substantially perpendicular to the 20 pressurizing direction of the output member including a support position of the lock means,

wherein, with the lock means imparting a predetermined pressurizing force to the output member of the pressurizing means while supporting the output 25 member, the control means causes the initial movement control means and the contact movement control means to move one of the mounting part holding means and

the mounting target part holding means, and
wherein the pressurizing force detecting means
is caused to function as the contact start detecting
means.

5 5. A mounting apparatus according to Claim 4,
further comprising:

a raising amount detecting means for detecting,
as a raising amount, an amount by which the output
member is deformed between a contact side end portion
10 of the output member and the support portion due to a
contact pressure generated when the mounting part
comes into contact with the mounting target part; and
a contact start position correcting means for
correcting a contact start position detected by the
15 contact start position detecting means based on the
raising amount,

wherein, each time the contact start position
is detected by the contact start position detecting
means, the correction means corrects one of the
20 predetermined initial moving amount and a
predetermined initial moving amount that is obtained
after correction by the correction means based on the
contact start position corrected by the contact start
position correcting means.

25 6. A mounting apparatus according to Claim 5,
wherein the raising amount detecting means detects
the raising amount by a linear gauge.

7. A control apparatus for a mounting apparatus, comprising a control means for moving one of a mounting part holding means and a mounting target part holding means to bring a mounting part held by the mounting part holding means and a mounting target part held by the mounting target part holding means into contact with each other in a predetermined manner for a predetermined processing,
- wherein information from a contact start detecting means for detecting start of contact between the mounting part and the mounting target part, and information from a contact start position detecting means for detecting a contact start position where the start of contact between the mounting part and the mounting target part is detected by the contact start detecting means, are input to the control means, and
- wherein the control means comprises:
- an initial movement control means for moving the one of the means to be moved from a predetermined initial position toward the other means by a predetermined initial moving amount;
- a contact movement control means for moving, after movement by the predetermined initial moving amount by the initial moving means, the one of the means to be moved toward the other means in a manner different from that of the movement by the

initial moving means, bringing the mounting part into contact with the mounting target part; and

- a correction means for correcting, each time the contact start position is detected by the contact 5 start position detecting means, one of the predetermined initial moving amount and a predetermined initial moving amount that is obtained after correction by the correction means based on the contact start position detected.

10 8. A control apparatus for a mounting apparatus according to Claim 7, wherein the mounting apparatus comprises:

a pressurizing means for causing an output member to act on one of the mounting part and the 15 mounting target part to impart a predetermined pressurizing force between the mounting part and the mounting target part in contact with each other;

a lock means for supporting as a support portion a halfway portion of the output member from a 20 direction opposite to a pressurizing direction to regulate relative movement of the output member in the pressurizing direction with respect to the support portion; and

a pressurizing force detecting means for 25 detecting a pressurizing force actually acting on the output member between an end portion of the output member acting on the one of the mounting part and the

mounting target part and a position of a cross section substantially perpendicular to the pressurizing direction of the output member including a support position of the lock means,

5 wherein information from a raising amount detecting means is input to the control apparatus, the raising amount detecting means being for detecting as a raising amount an amount by which the output member is deformed between a contact side end 10 portion of the output member and the support portion due to a contact pressure generated when the mounting part and the mounting target part are brought into contact with each other,

 wherein the control means is equipped with a 15 contact start position correcting means for correcting the contact start position detected by the contact start position detecting means based on the raising amount, and

 wherein, each time a contact start position is 20 detected by the contact start position detecting means, the correction means corrects one of the predetermined initial moving amount and a predetermined initial moving amount that is obtained after correction by the correction based on the 25 contact start position corrected by the contact start position correcting means.